December 15, 1986

Mr. Benjamin E. White, P.E.
Environmental Engineer
East Superior Street
Alma, MI 48802

Dear Mr. White:

Terry McNeil and Liz Browne have reviewed your November 13, 1986 letter responding to the MDNR concerns listed in my October 9, 1986 letter relative to our CMEL report for the Total landfarm. Except for the two points needing clarification as outlined in Terry's December 2, 1986 memo (copy attached) your response is adequate. Please supply this clarification by December 31, 1986. If you have questions or wish to discuss this matter, please contact Terry.

Very truly yours,

Robert E. Basch, Supervisor
DNR - Region III
HWD - Lansing District
P.O. Box 30028
Lansing, MI 48909
517-322-1300

REB:ms

Attachment

cc: T. McNeil/L. Browne

Liz Browne

Bob Bank

SUBJECT: Total response re: CME inspection

OUR JOB NO.

DATE OF MEMO 11-17-86

MESSAGE

Attached is Ben White response to my LOW regarding the CME report which you both prepared. Would you review this and give me your comments so I can respond to Ben. I would appreciate receiving your comments by 12-5-86.

SIGNED Bob Bank

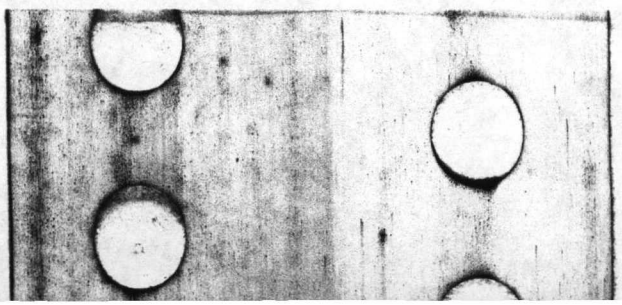
SENDER – DO NOT WRITE BELOW THIS LINE

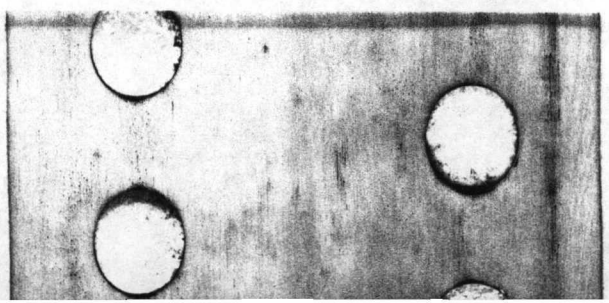
REPLY

SIGNED DATE

FOLLOW-UP

SENDER — Retain part 2 for your follow-up, send parts 1 and 3 to addressee
RECIPIENT — Retain part 1 and return part 3





TOTAL
Total Petroleum, Inc.

EAST SUPERIOR STREET
ALMA, MICHIGAN

TELEPHONE 517 463-1161

MAILING ADDRESS:
ALMA, MICHIGAN 48802

BENJAMIN E. WHITE, P. E.
ENVIRONMENTAL ENGINEER

November 13, 1986

Mr. Robert E. Basch, Supervisor
DNR - Region III
HWD - Lansing District
P.O. Box 30028
Lansing, MI 48909

Dear Mr. Basch:

This is in response to your letter of October 9, 1986 regarding the six items in Terry McNeil's CME summary report. We are also responding to the recommendations and concerns that were outlined in Ms. Browne's memo.

Our responses to the six items in the CME report are provided below in the same sequence as they were listed in the report.

1. This item indicates that a specific effort should be made to delineate the extent of the phenols. We need more information concerning what the MDNR would like us to do to provide the requested delineation and what useful information will be gained by this investigation. We believe a considerable amount of information regarding these phenols has already been developed and reported. Recent conversations with Terry McNeil have not revealed a reason for this additional study.

   After receipt of your letter we have sampled all of the groundwater monitoring wells located inside the land treatment facility. These samples have been sent to an outside laboratory for acid extractable analysis. That analysis will quantify the concentrations of various phenolic compounds in the samples. The results of this analysis will be sent to you soon after we receive them from the laboratory.

2. During our recent conversation with Terry McNeil, he stated that drilling two additional monitoring wells would be sufficient for defining the eastern and western extent of the surficial aquifer. One of these wells will be located further northwest of our existing wells at the land treatment facility, and the other will be to the northwest. The specific locations of these wells was discussed with Mr. McNeil. These wells will be sampled for TOC, conductivity and phenol but they will not become a part of our quarterly monitoring network.

3. We plan to do two studies to demonstrate either the lack of, or degree of, interconnection between the surficial and lower outwash aquifer. The first is to conduct a pumping test of one of our water supply wells that is located by the land treatment facility. Measurements of drawdown, or lack of drawdown, will be made in a shallow aquifer well near the pumping well while that lower aquifer well is being pumped.

   We will also drill a boring south of the land treatment area. This boring will be drilled into the bottom clay layer and samples taken at various depths. Permeability tests will be conducted on those samples.

4. This item indicates that there is a need to determine whether elevated TOC and conductivity levels around the tank farm are from the land treatment area or from other sources. We have sent samples of water from two of the wells at the refinery's northern boundary to an outside laboratory in an attempt to learn the constituents of the TOC in those wells. That laboratory has concluded that those constituents are oil products, acidic in nature, which have a relatively high molecular weight. No priority pollutants were measured in those wells. We are requesting that this laboratory provide a more specific description of their findings and we will submit a final report to you when it is available.

   Our conclusion that the source of the TOC at the refinery's northern boundary is probably not related to the land treatment facility is based upon the levels of TOC that have been measured in the monitoring wells. Our data shows that there is a marked and gradual decrease in TOC in the groundwater at wells located at increasing distances northerly of the land treatment facility. Background levels of TOC have been measured in MW 24, which is located in the center of the tank farm area. However, increased levels of TOC have been measured at wells located at the refinery's northern boundary. These increases in TOC tend to indicate that there is an additional source of TOC between well No. 24 and the refinery's northern boundary.

5. MW15 has recently been sampled and that sample was sent to an outside laboratory for 1, 2 dichloroethane analysis. Total Petroleum, Inc. concurs that it is in our interest to investigate the MDNR's unconfirmed analysis results. However, we have previously on three occasions sampled MW 15 for 1, 2 dichloroethane and none has been found.

6. In the future we will use bailers for sampling all of the groundwater monitoring wells that are on our quarterly sampling network. This change will include drilling a new 2" monitoring near MW 30, which is a 4" well. Attempting to bail three volumes of water from a 4" well is extremely time consuming. The new well will be located outside the land treatment facility dike and will be numbered MW 30A.

We are also implementing a record keeping system for logging samples into our laboratory and the Sampling and Analysis plan will be revised to be more specific about the static water level reading method, purge volume measuring, bailer type and decontamination.. In addition a more complete field notebook will be used. The sample parameter list will also be expanded. Samples being sent out will be identified and filtering will be noted. Finally specific analytical methods and references will be added.

If you have any questions concerning this letter please contact us.

Sincerely,

Benjamin E. White

BEW:djw

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

December 2, 1986

TO: Bob Basch, Lansing District, Hazardous Waste Division

FROM: Terry McNiel, Technical Services Section, Hazardous Waste Division

Terry McNiel

SUBJECT: Total Petroleum-Alma
November 13, 1986, CME Response

As requested, Total Petroleum's response to deficiencies noted in the October 2, 1986, CME report has been reviewed. Following the order of the response are my comments along with requested clarifications.

1. The company indicates that they have sampled all the groundwater monitoring wells located inside the land treatment facility. The planned analysis is to determine the concentrations of specific phenolic compounds. Should the wells located furthest downgradient show less than detectable levels of these consitutents, their extent will be determined. If quanifiable levels are found in these wells, further analysis of additional wells will be needed to delineate the extent.

   As a clarification of the reason for this study, 40 CFR 265.93(d)(4)(i) requires the determination of the extent of any hazardous waste or hazardous waste constituents. Additionally, future design considerations of a groundwater clean-up may require that this information be known to optimize the efficiency of the chosen system.

2. As a point of clarification, I have told Mr. White that drilling two new monitoring wells, one to the northwest and one to the northeast, may define the easterly and westerly extent of the surficial aquifer. Additional wells or borings may be needed based on the results of the two planned wells.

3. The response adequately addresses the deficiency. I would point out that extreme care should be taken to prevent cross-contamination of the surficial and outwash aquifers. Plugging of the boring should also be done with care.

4. The response is adequate.

5. The response is adequate. However, the results of the 1, 2 dichloroethane analysis should be submitted to MDNR as soon as the company receives them.

6. Liz Browne has indicated that the sampling and analysis responses are adequate.

If there are any questions, please call.

cc: J. Bohunsky/ C&E File
L. Browne